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15. Abstract

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II Techniques

Up to this date (Nov.1.) 74 images have been receiced of all bands as 70 mm negative film from Landsat II through Sioux Falls. The imagery have a very high quality. A computer listing is maintained and updated for all imagery avaiable of Norway. This list is distributed to other users.

Work is under way to draw separate maps of the catchment areas where we work with snow-hydrology. The first map will show the water-equivalent of the snow as registered by weighing of snow samples of different points in the catchment-area. The second map will show the data obtained from low-flying air-crafts using the reduction in the natural gamma radiation from the ground. These maps will be compared with information from Landsat-imagery.

The project has been somewhat enlarged as a joint project has been started with hydrologist Wendel Tangborn of the Water Resources Division of the Geological Survey, Tacoma, Washington. Mr. Tangborn has developed a new simulation model for a catchment area to predict the inflow to a hydroelectric powerplant. The model seems to be promising and has at a preliminary stage given better results than conventional methods for prediction. We feel this work can well be intergrated in our Landsat project.

III Accom plishments

(1) Two tests areas have been appointed for the project. The area in the southern part of the country has had a good coverage in the snow-melting period up to August 1st. After this date the weather conditions have been poor and no imagery has been obtained.

(2) In the catchment-area in the north the weather has been poor all spring and summer and only two images were obtained at the end of the melting-season in July. After that date no images has been obtained. For this area the coverage-period has been extended to also include the spring and summer of 1976.

(3) Through the kind cooperation of the Pennsylvania State University a library of computer programs for handling remotely sensed data has become avaiable to us. These programs are now under implementation at a computercenter in Oslo and will be avaiable for the rest of the project.

This program library will then be established as a valuable tool for the planned remote sensing center in Norway.

IV Significant Results

None at this point.

V Publications

None at this point.

VI Problems

The main problem is cloud-coverage. No imagery has been obtained this fall that can be used for the project.

VII Data Quality and Delivery

Quality and delivery is satisfactory.

VIII Recommendations

None.

IX Conclusions

The work is going according to plans. Lack of imagery for certain periods will make it necessary to reduce the work somewhat . We are trying to overcome this problem by using all avaiable imagery from Landsat I. This indicates already at this stage that a snow-

melt-surveilance system based on tape-recorders in a satellite with one satellite, a passing every 18.day and using visible light is not good enough for this type of work.

If, in the future, several satellites were operating with a receiving station in the area work of this type would be greatly simplified.

Oslo, December 1st. 1975.

H. Ødegaard

Helge Ødegaard